Visualizing Design Analytics in VR with FormIt

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Drury University

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About the speaker

Teach all the digital things…

David R. Beach is an architect and Associate Professor of Architecture at the Hammons School of Architecture at Drury University. Specializing in digital design technology, David is an advocate of full digital immersion as part of a traditional design process leveraging technology to inform process, collaboration, and decision making through analysis. David teaches in the architectural design studios, the Center for Community Studies working at the urban design scale, and both the introductory and advanced digital design technology courses. The application elements of David's current research can be found at the Autodesk Design Academy, and on his blog and YouTube Channel: The Architect's Digital Design Guide - which combined have over 6 million minutes of viewership, and are outlets for work and information directly related to questions received from students and practitioners. David has given 8 presentations at AU, and has completed over 25 major conference presentations in the last 10 years.

Learning Objectives:

IMMERSIVE DATA:

Understand how to convert analytical data into visually immersive data.

ANALYTICS:

Understand the application of building simulation data as analytics to inform building design options.

VR:

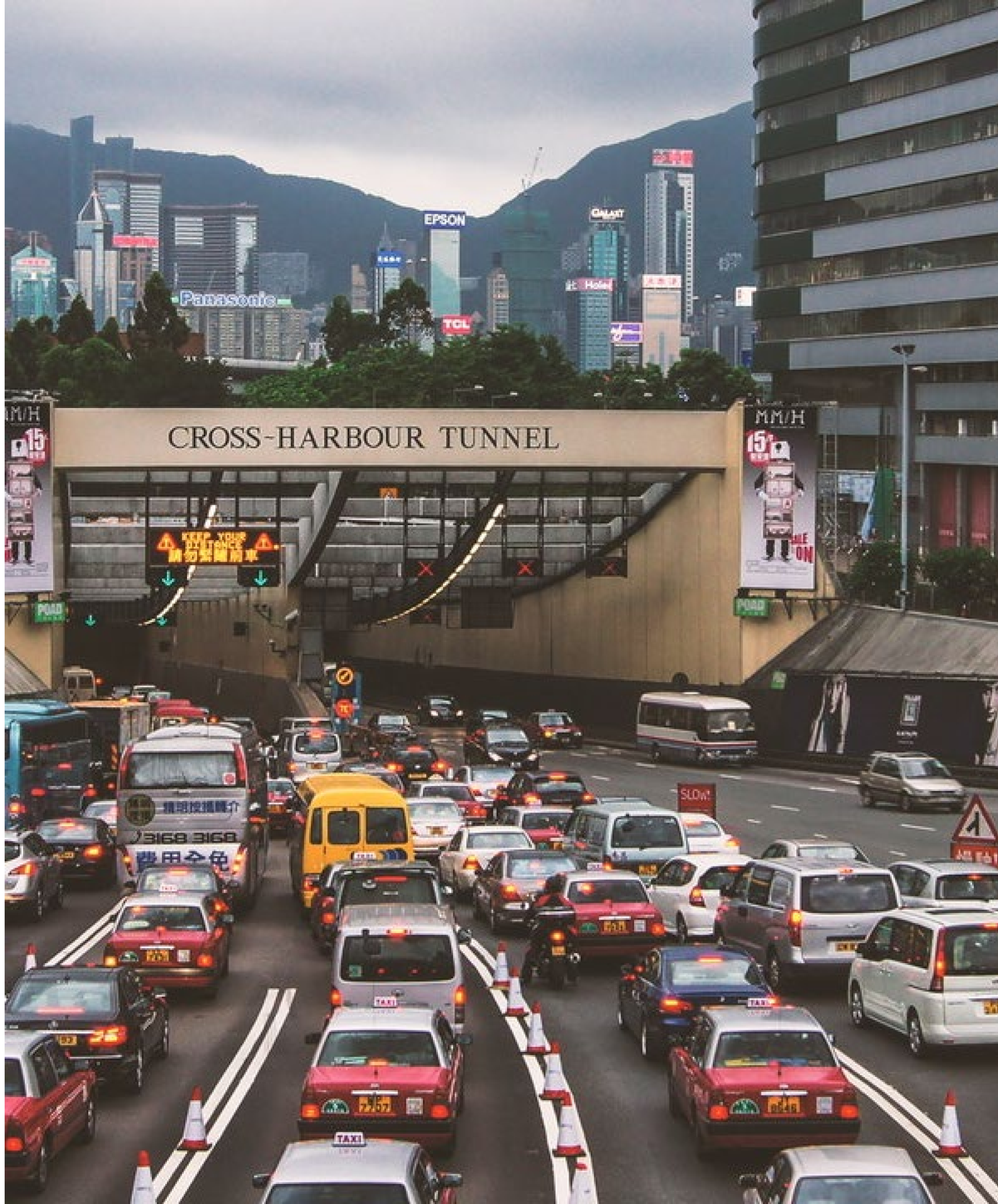
Build an immersive VR experience expressing key analytical building simulation information as it directly applies to formal and spatial design thinking.

COLLABORATION:

Create a process of collaboration and positive compromise with the design team, stakeholders, and project constituents using VR.

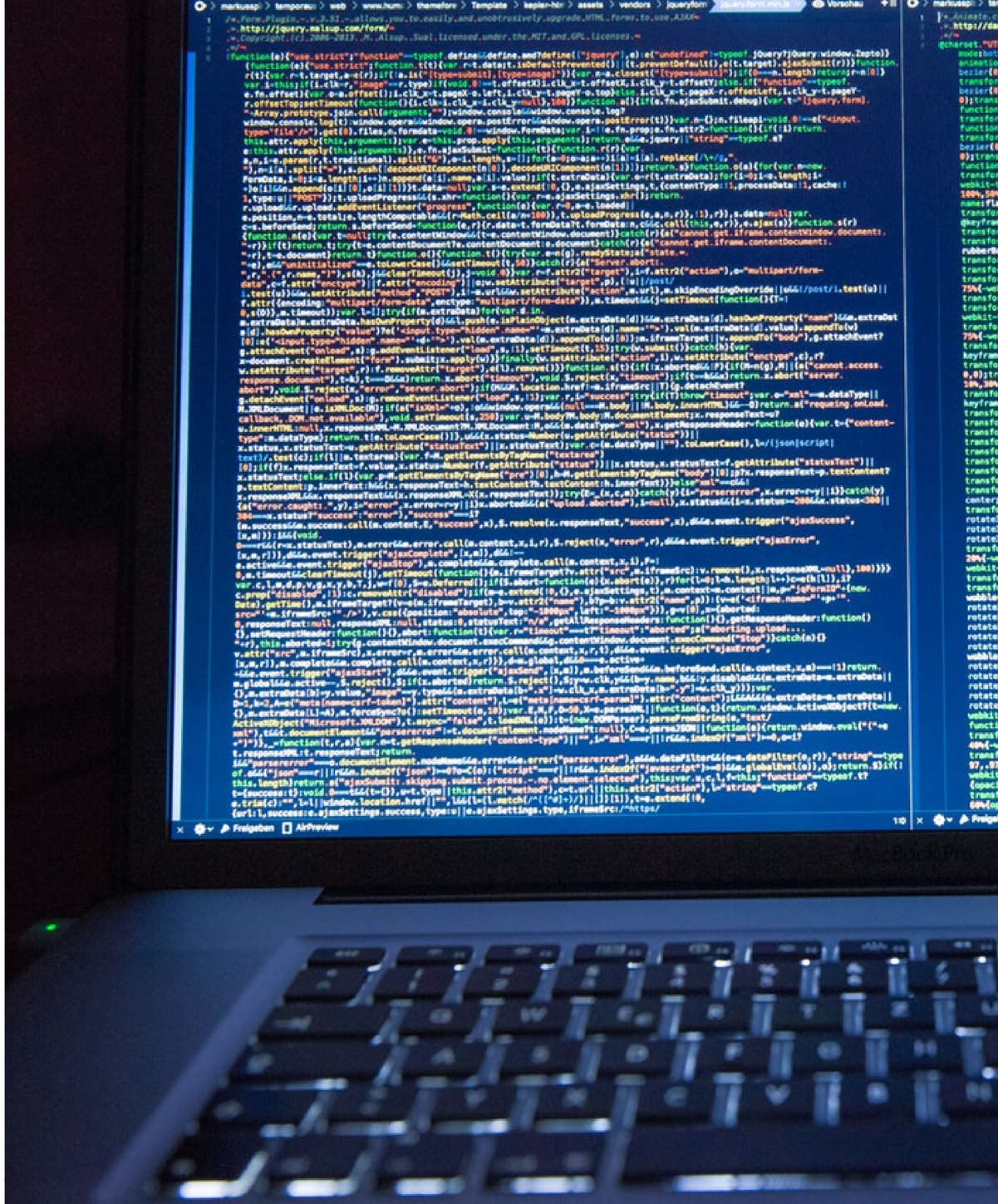
Design Thinking+Technology

- Design Thinking vs Technology



Design Thinking+Technology

- Design Thinking VS Technology
- Relation to Clients – Overload



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- Client Communication
  - Scale
  - Immersion

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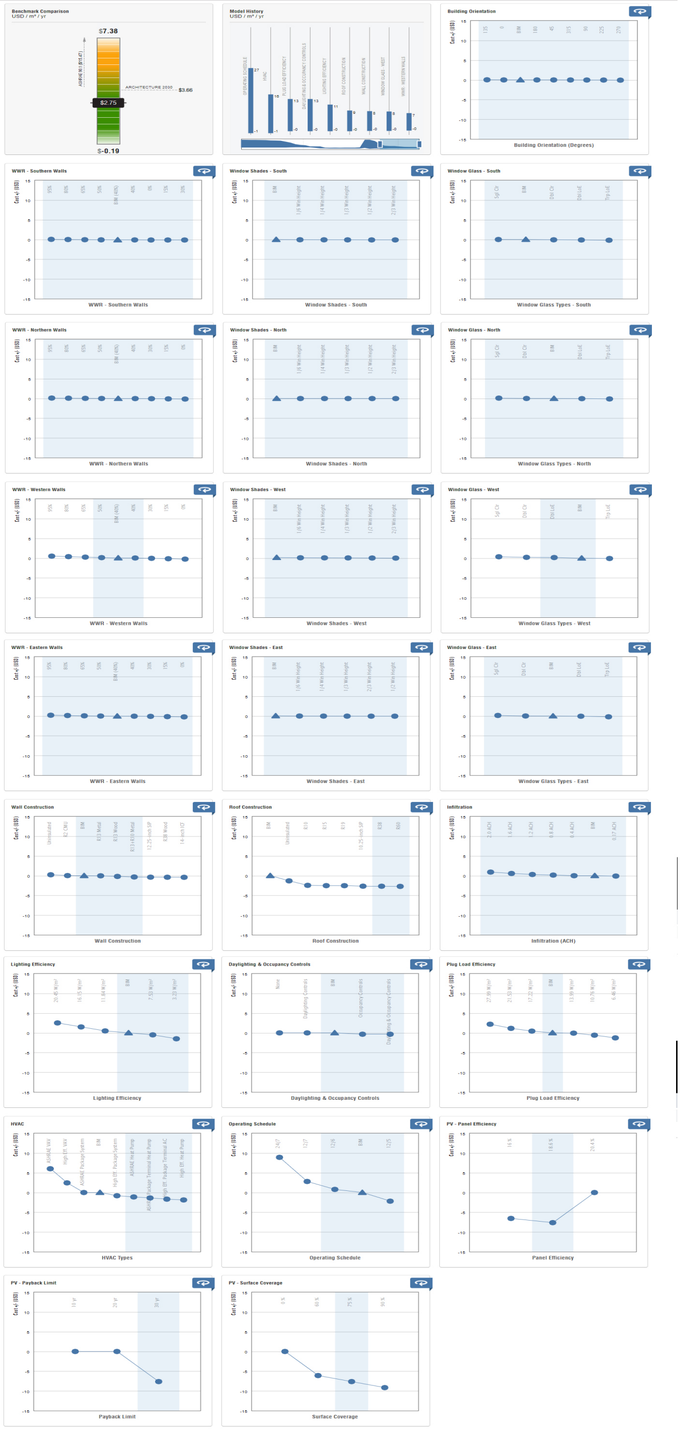
  - Scale
  - Immersion
- Deliver data – build collaboration



Step One – Site:

- Site Data
- Satellite Underlay
- Data to Topography
- Modifications to the Toposurface
- Establishment of Location

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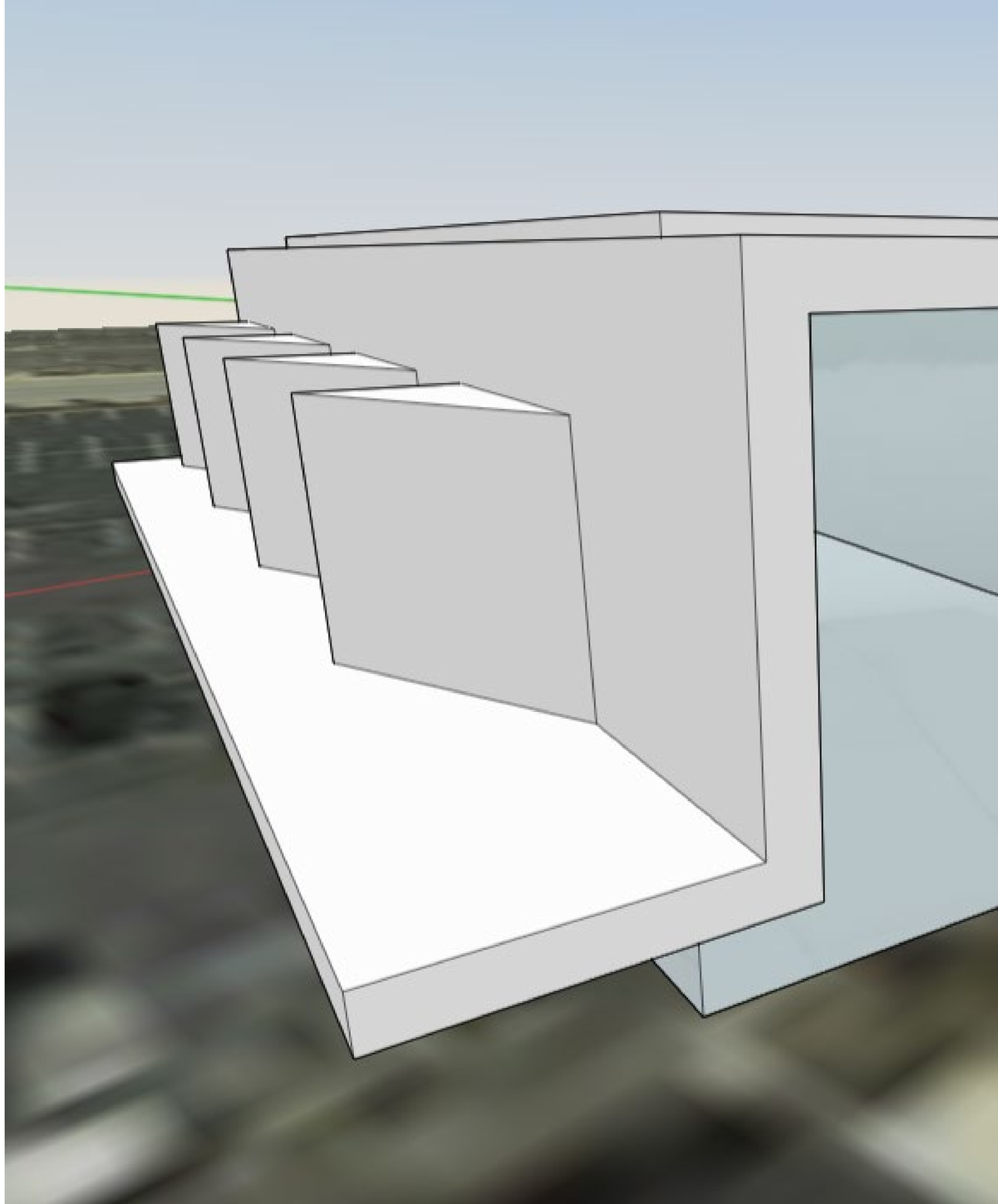
- *For complete step by step instruction see video linked here:*
- ***https://youtu.be/pnmGb8YPtiI***

Step Two – Construct Data:

- FormIt
- Location – Site – Weather
- Construction of Massing
- Creation of Predesign Simulations



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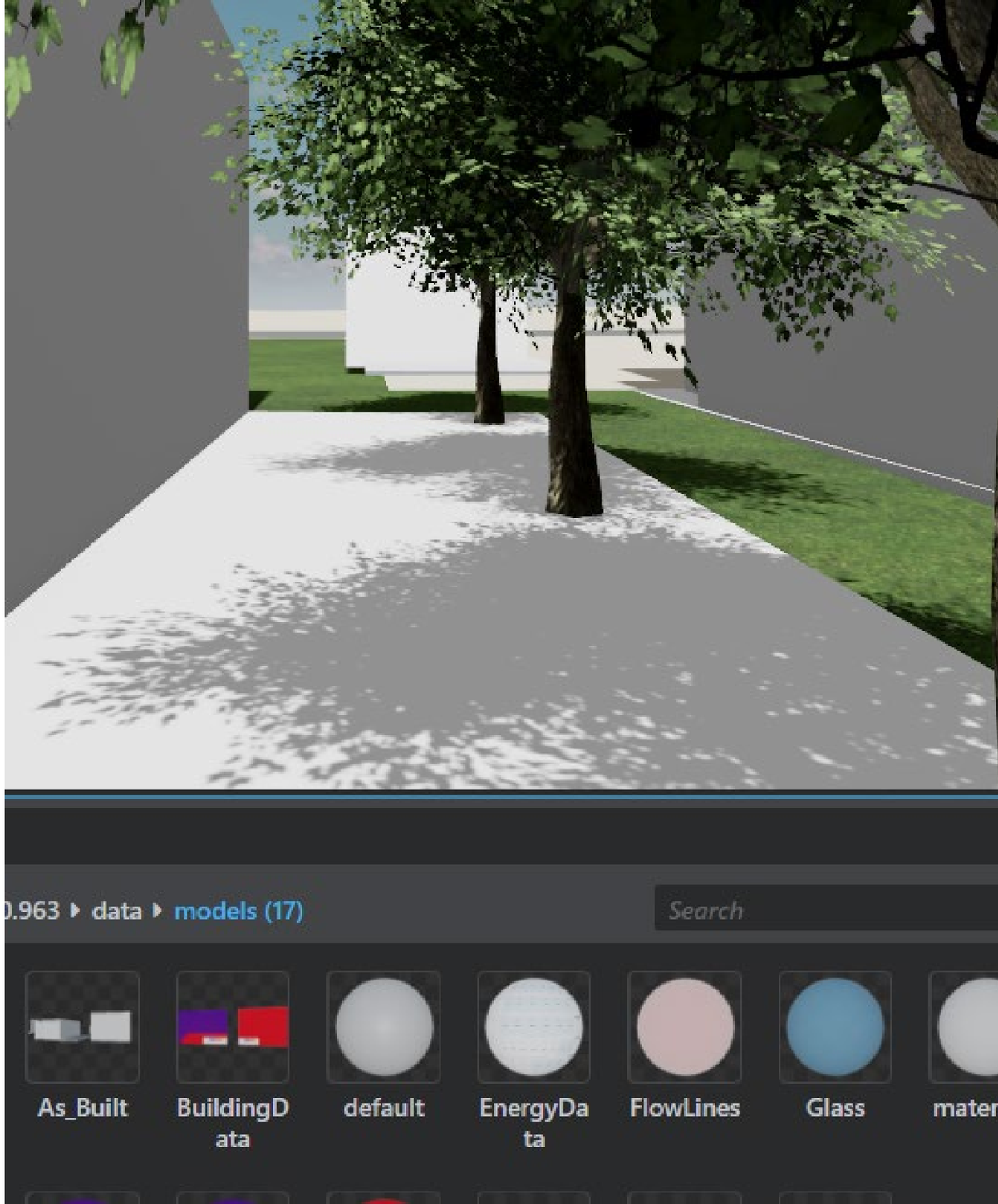
Step Three – VR Template:

- Revit to VR
- Live to Interactive
- FormIt to Max
- Max to Interactive



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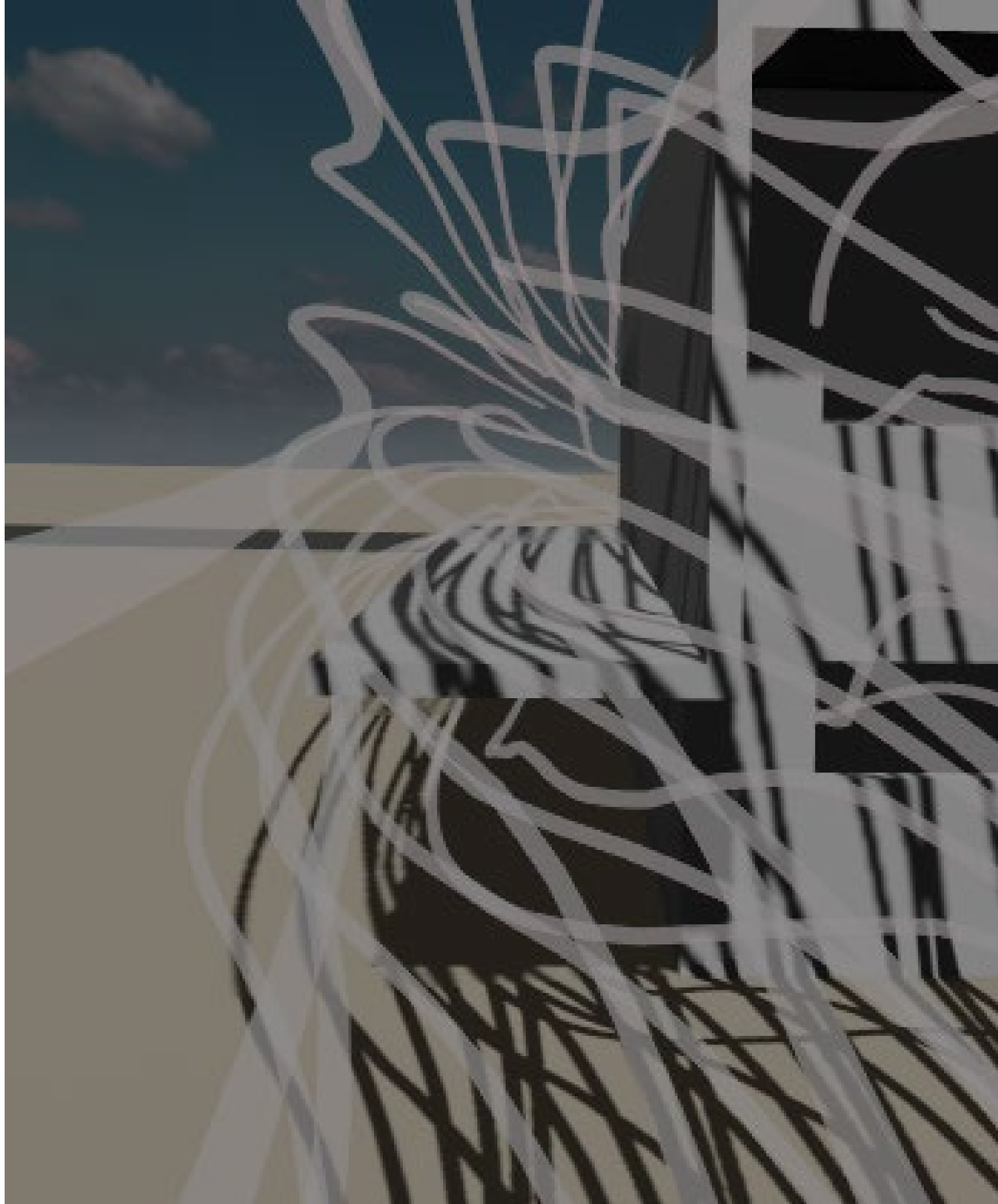
Step Four – Wind Sim:

- Wind Data
- Wind Tunnel Volume
- Revit to CFD
- CFD Simulation
- Creation of Traces



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Step Five – Data to VR:

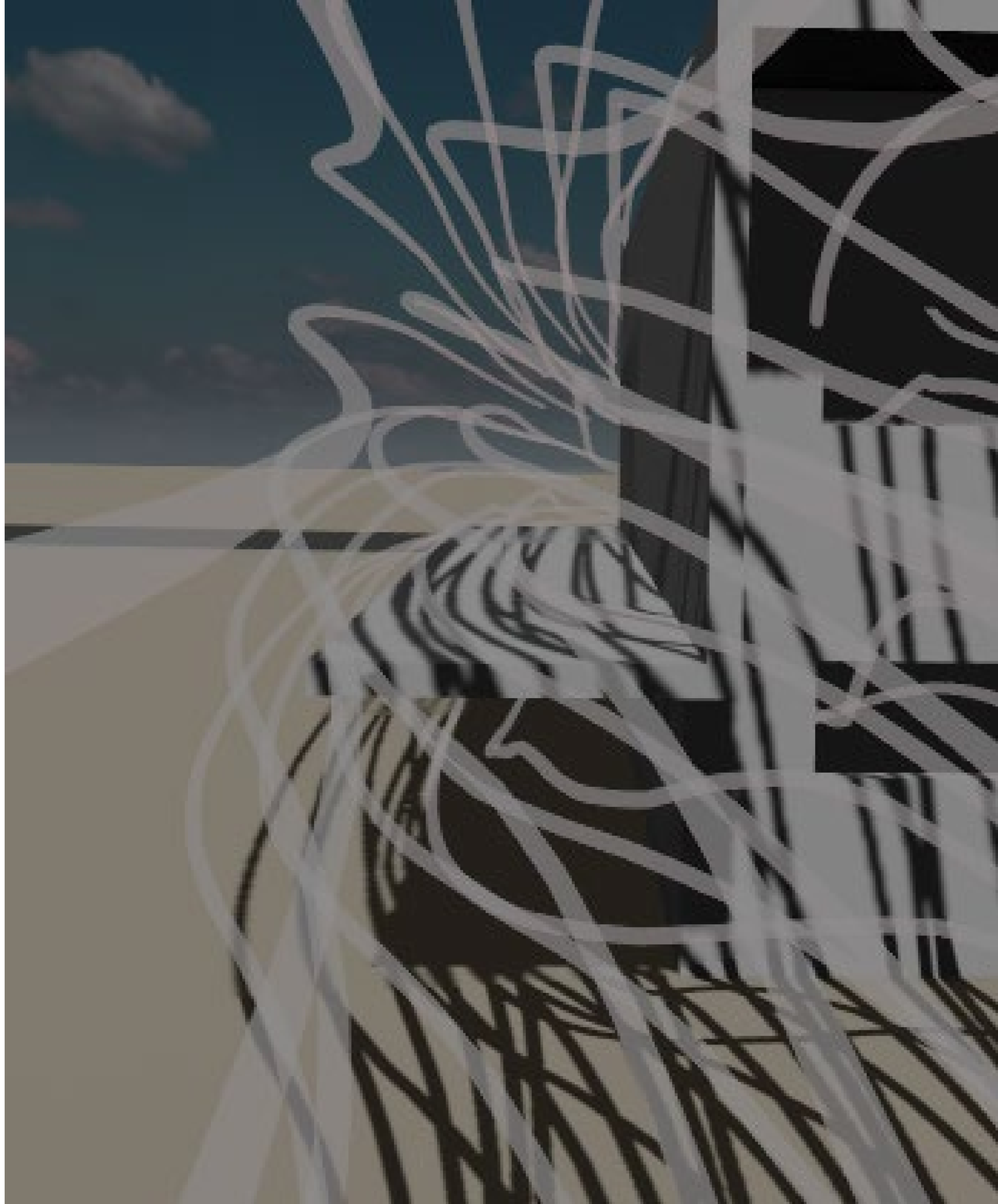
Grab Data Imagery

Photoshop

Geometry and Mapping in Max

Max to Interactive

VR



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